Texas A&M Veterinary Medical Diagnostic Laboratory – Your One Health Partner

Bruce L. Akey DVM MS
Interim Director
Vision

• To be the global leader in providing innovative and state-of-the-art veterinary diagnostic services

Mission

• To promote animal health and protect agricultural, companion animal, food safety and public health interests in Texas and beyond by providing excellence in veterinary diagnostic service
• Livestock and poultry production contributes $18B annually to the Texas economy¹

• Agriculture directly accounts for over 56,000 Texas jobs, while 1 in 7 Texans work in an agriculture-related job¹, ²

• Exports of livestock & livestock products total $3.66B² annually

• Veterinary medicine contributes an estimated $827M to the Texas economy³

• 56% of all Texas households own at least one pet⁴

1 Office of the Governor
2 Texas Department of Agriculture
3 College of Veterinary Medicine, Texas A&M University
4 American Veterinary Medical Association
**Agency Overview**

- Only state agency dedicated to providing **veterinary diagnostic services** to the citizens of Texas

- The backbone of a high consequence, emerging and/or zoonotic disease **surveillance** system
  - *Foot and Mouth Disease*
  - *Avian Influenza*
  - *Porcine Epidemic Diarrhea Virus*
  - *Equine Piroplasmosis*
  - *Anthrax*

- Houses the only **BSL-3** laboratories in Texas dedicated to animal disease testing and response

- Performs **drug testing** for pari-mutuel racing animals and livestock shows
Locations

- 165 staff
- Over 30 professional staff who hold a DVM and/or PhD
- 21 professionals with board certifications in their specialty
- Strategically located in the livestock and poultry rich regions of Texas
Accreditations

- ISO 17025
- American Association for Laboratory Accreditation
- Veterinary Laboratory Association

TVMDL - Texas A&M University System - Veterinary Medical Diagnostic Laboratory
Tests by Species

- Large Animal: 250,000
- Small Animal: 100,000
- Avian: 200,000
- Drug Lab: 50,000
- Other: 0

FY14
Capabilities

Bacteriology
Virology
Serology
Toxicology
Necropsy
Histopathology
Clinical Pathology
Endocrinology
Drug Testing
Methods Development
Technologies

Aerobic/Anaerobic Culture

Virus Isolation

Classical PCR/RT-PCR/RRT-PCR

MALDI-TOF

Antimicrobial Resistance Profiles

FA

Electron Microscopy

GC-MS/LC-MS

Next Gen Sequencing
## Technology Upgrades: MALDI-TOF

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Detected Species</th>
<th>Score</th>
<th>Comment</th>
<th>Validation</th>
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Select Agent Surveillance - General

Botulinum neurotoxins*
Coxiella burnetii
Eastern Equine Encephalitis virus
Francisella tularensis*
Yersinia pestis
Bacillus anthracis*;
Bacillus anthracis (Pasteur strain);
Brucella abortus;
Brucella melitensis;
Brucella suis;
Burkholderia mallei*;
Burkholderia pseudomallei*;
Rift Valley fever virus;
Venezuelan equine encephalitis virus
Select Agent Surveillance - USDA

African horse sickness virus
African swine fever virus
Avian influenza virus
Classical swine fever virus
*Foot and-mouth disease virus
Goat pox virus
Lumpy skin disease virus
Mycoplasma capricolum
Mycoplasma mycoides
Newcastle disease virus
Peste des petits ruminants virus
*Rinderpest virus
Sheep pox virus
Swine vesicular disease virus
National Animal Health Laboratory Network (NAHLN)

NAHLN Laboratory Designation
- Core Member Laboratory
- Core Member Branch Laboratory
- Member Laboratory
- Contract Member Laboratory
- Adjunct Member Laboratory
- National Veterinary Services Laboratories


March 2013
EXTENSION VETERINARIANS

- **2 Joint Appointments** with TVMDL and Texas A&M AgriLife Extension Service

- Develop and deliver **programs on herd health**, management/quality assurance in livestock systems, utilizing TVMDL as an extension of your practice

- Coordinate with **emergency management** professionals at AgriLife Extension to develop and deliver information on preparedness and response to animal owners

- Offer **advice and guidance** to animal owners and veterinarians

- Develop and deliver **educational programs**:
  - How to use TVMDL as an extension of your practice
  - Best practices for interpreting diagnostic results
  - Sampling, packaging, shipping
  - Test development
New College Station Laboratory

- Biosafety Level 2 (BSL-2) Laboratories: 33,350 NSF
- Biosafety Level 3 (BSL-3) Laboratories and Necropsy: 4,520 NSF
- Offices: 12,270 NSF
- Building Support Spaces: 11,920 NSF
- Total Net Assignable Square Footage: 62,060 NSF/96,000 GSF
Exceptional Item Request: Veterinary and Veterinary Diagnostic Workforce Development

- $3.5M/biennium
- Joint request with the College of Veterinary Medicine & Biomedical Sciences, Texas A&M University (CVM)
- Enhance training opportunities for the next generation veterinary diagnostic workforce
- Develop a pipeline of professionals to assume leadership positions within CVM and TVMDL
- Enable veterinarians with specialized experience to enter public health and private enterprise occupations
- Instruct veterinary students in specialty areas that have a high demand for employment upon graduation
- Train up to 6 residents per year and add 4 faculty/professional staff to CVM & TVMDL
- Equipment will be purchased to train residents on state-of-the-art technologies
Protecting Animal and Human Health Through Diagnostics

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